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ABSTRACT

This article attempts to show the teacher how to individualize the teaching experience by clarifying daily instructional goals. Its purpose is to reevaluate the cognitive, psychomotor, affective, and performance objectives used by the classroom teacher. The first section emphasizes the use of performance objectives in the classroom situation. The second section presents five steps necessary to individualize a classroom course through performance objectives; the first three steps give a general view of the course direction while the remaining steps emphasize specific course objectives. The last two sections of the article present examples of the lesson plan as used by teachers of an auto mechanics course and an advertising course. A critique of both examples is included. Twelve tables of data are presented. (BRB)

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HOW TO INDIVIDUALIZE YOUR CLASSROOM INSTRUCTION BY USING PERFORMANCE OBJECTIVES

SP 006 175

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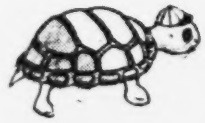
YOU THINK YOUR STUDENTS ARE



THEY THINK THEY ARE TREATED LIKE

AND

BOTH OF YOU FEEL LIKE YOU'RE

WHAT CAN YOU DO ABOUT IT?

IMPLICATIONS OF USING

PERFORMANCE OBJECTIVES IN YOUR TEACHING

This article is intended to show you the teacher how to individualize your teaching by clarifying your day-to-day instructional goals. Its purpose is to stimulate you to do this in a way which will get you thinking in terms of what your students should do as a result of your instruction. It presumes that at present you do think in terms of what you will do in the classroom.

This article wants to influence your cognitive objectives. Cognitive objectives are found in the ideas and knowledge students are to learn. It is hoped that you will start thinking in terms of observable student performances which apply newly acquired knowledge. Your instruction will stress practicality as well as content and subject matter.

This article wants to influence your psychomotor objectives. Psychomotor objectives are found in the activities, actions, and performances students are to learn. It is hoped that, when demonstrating your classroom goals to your students, you will do so in a way that makes it crystal clear to learners exactly what you expect them to do.

This article wants to influence your affective objectives. Affective objectives include such things as values, motivations, and attitudes students are to learn. It is hoped that you will begin to experience the feeling of success and accomplishment that comes from seeing your plans resulting in improved performance among your students.

This improved performance is something you should see in more than rote memory. You should expect some of your students to start doing a wide variety of things as the result of your instruction. This shows your students have gone beyond merely reading and writing with the goals you have helped them attain. You should expect some of your students to start talking to others about the new things they have learned. This will show that your instruction and their learning have gone beyond the strictly academic approach.

Table 1

What You (as a Teacher) Should Be Able to Do after Reading This Article	
KNOWLEDGE --	Shift gears <u>from</u> content and subject matter <u>to</u> observable and measurable student performances.
ACTIONS ----	Teach in such a way as to make it clear to students exactly what you expect of them as a result of your instruction.
ATTITUDES --	Experience the feeling of success and accomplishment that an architect feels when one of his blueprints finally becomes a reality.

<u>"Using Performance Objectives"</u> <u>Instead of</u> <u>"Writing Performance Objectives"</u> : It might be asked why this article has stressed "using performance objectives" in its title instead of "writing performance objectives." The reasons for this deliberate choice can be summed up in five words: bibliography, instruction, priorities, professionalism, and self-improvement.

<u>Bibliography</u>: There is an abundance of literature both in book and in periodical format purporting to teach classroom teachers how to write their instructional objectives. A "proper" behavioral objective format stresses observable performance, relevant conditions, and self-evaluative criteria. Two difficulties arise from reading such literature : (1) there is a large amount of it to read; (2) a large amount of the recommended work is of such a detailed nature that it is not part of the life style of the typical teacher, such as yourself and your confreres.

<u>Instruction</u>: The primary pressure or objective in the day-to-day work of a teacher is instruction. As helpful as it might be to research and development in general, the physical act of writing out everything to be taught does not always have a high enough pay-off in terms of increased

student learning to be considered worth the extra paperwork. The teacher under the system envisioned by performance objectives is not the person who handles the writing of everything he intends to teach; the teacher is the man or woman who is able to coordinate and manage an instructional process which tries to go beyond content and subject matter, which too often are learned only by rote memory, to observable and measurable student behaviors and performances which allow the learner to start using and applying his newly acquired knowledges and skills.

Table 2

What Your Students Should Be Able to Do Once You Start Using Performance Objectives in Your Classes

KNOWLEDGE --	Express in his or her own words the ideas and understandings that were developed in a particular lesson.
ACTIONS ----	Try out and use skills, powers, and activities that previously were not mastered and ready for application. In other words, the learner now has a larger repertoire of behaviors.
ATTITUDES --	Feel satisfied and enthused enough to develop his or her inner resources which are now able to manifest themselves in a variety of newly actualized possibilities.

Priorities: The man or woman in the role of teacher who strives after the above listed student objectives will soon find that writing performance objectives in the format of conditions, performance, and criteria is not one of his or her highest priorities. The process implied in the writing is indeed something valuable, but the amount of time you as a classroom teacher would have to spend is enormous. It might be good for you to write out one or two performance objectives to develop the process in your mind; but never forget that it is much more important for you to

use these clear-cut and measurable goals than to write them and to leave them unused in your lesson plans.

Professionalism: A professional is someone who is highly trained in a particular service to others. When you act as a professional, you rely upon two things: your training and your daily self-improvement. Your training was something you acquired before you started teaching; no matter how thorough it may have been, you probably weren't entirely satisfied with it once you personally realized what it takes to be an effective and successful teacher. Your daily self-improvement is something you learn every time you do a better job of teaching and student-stimulation. It's easy to spot: sometimes, this is due to your own observations and discoveries; sometimes, this is due to the ideas and techniques you have picked up from your colleagues. If you tried to claim credit for the ideas of others in written documents, this would be plagiarism; when you try to implant the successes of others in your improved classroom performance, it is called professionalism. Your criterion is quite simple: whatever can improve the classroom and on-the-job success of your students is yours to use no matter where it comes from. An example: if your personally developed approach to teaching is less effective than something you see one of your confreres doing, then it is your professional right to adopt his approach as long as it can improve and fit in with your style of teaching.

Self-Improvement: Many teachers have discovered that one of the best ways to learn how to teach better is to start teaching. The demands of the subject matter, of the students, and of the teacher's own inner possibilities will inevitably suggest a better way to present a particular objective. Sometimes, this improvement will occur in methodology, in the evaluation instrument, in the use of media, and in the precision of the objective itself.

The teacher who cannot tune-up his last performance is to be pitied since he is deprived of the excitement and fulfillment that goes hand in hand with a better score or with a better performance. This is simply another way of telling you that it would be a waste of time for a beginning teacher to methodically and microscopically spell out all his daily instructional goals since the vast majority of them might change from year to year; it is not unusual for a teacher like yourself to teach in order to obtain Objective "A" one way in the morning to Group-X and to teach Objective "B" another way in the afternoon to Group-Y. There isn't always a large amount of difference between Objective "A" and Objective "B." There is enough difference between the two groups of your students to require a slightly approach to the same basic performance. This can occur even when both of your groups are in similar stages of development. This last example is intended to give only one or two dimensions of the typical self-improvement you will experience as you continue to improve on even your best teaching.

Experienced teachers often go beyond assembly line techniques in a number of ways : once basic educational goals are attained, teachers must stress process more than elementary products; this means that students must be taught how to think creatively. The reason for this is simple. Critical habits of thought allow a person to set his own goals. A man or woman taught to think creatively can solve a wider variety of problems than those covered in basic skill goals. A teacher who wants to stress self-development of his or her students must deliberately prepare students and learners for the unexpected; such students and learners will be able to go beyond mechanical and rote solutions. Exchange of curriculum data must go beyond product and product evaluation. There are many ways to judge student learning. Even if learning is equated with educational "gains," this concept manifests itself in different ways. A knowledge gain is one thing; a performance gain, another; and an attitude change, still another. Teachers must be ready for all three.

Table 3

Questions You Must Answer to Your Own Satisfaction Before You Take Out the Time Necessary to Start Writing Performance Objectives

PRIORITIES --------	Will writing out my performance objectives or thinking out my goals in terms of student behaviors and activities produce the greater benefits to new and improved accomplishments of my students? Which one?
BIBLIOGRAPHY ------	Is my most urgent need to start specifying student performances, foreseeable conditions, and self-evaluative criteria or to start thinking about how I can gradually introduce this into my face-to-face encounters with students who won't be impressed by a well-written lesson plan that is poorly executed?
INSTRUCTION -------	Are the evaluative criteria that I have communicated to my students the kinds of goals that will inspire my students to memorize more or the kinds of objectives that will motivate my students to start thinking up on their own activities and applications of concepts and skills we both work together to attain in the classroom?
PROFESSIONALISM ---	Would I personally learn more from translating my goals into the format of performance, conditions, and criteria or from modeling my classroom instruction on that of some of my more successful colleagues?
SELF-IMPROVEMENT --	Everything considered, will I get more benefit from gradually redesigning my teaching objectives and strategies or from completely revamping habits and performances that have given me a certain amount of success and satisfaction over the length of my teaching career?

These questions have no easy answers. The way you answer them will influence how you help individualize your students' learning inside and outside the classroom.

FIRST STEPS YOU CAN TAKE TO INDIVIDUALIZE YOUR COURSES (AND LESSON PLANS) BY USING PERFORMANCE OBJECTIVES

As is obvious from the previous section, the references to be made to written lesson plans are strictly in accordance with the conventions of a written article like this. Nothing in the following pages is intended to suggest that writing a lesson plan will be more effective in your particular case than thinking it out in the same format in your head. You must decide whether writing or brainstorming is more effective for your particular objectives. The term, "mini-redesign" is another way of saying "redesign gradually." Develop your objectives so others can understand and value them.

Step One: Write up a few brief and understandable goals for your course. Don't read any farther in this document. Take out a piece of paper and start writing. After you have finished, continue reading and evaluate your goal statements with the criteria listed under step two.

Step Two: Check over your goals to see if they are in accordance with the following guidelines. If they are, then mark up your copy of this article with a "C" in front of the particular criteria with which your statements agrees. If your goals disagree, then mark an "X" in front of the criteria with which your goals don't agree.

Course Goals: These goals should be for the entire course (e.g., one semester) rather than for a particular daily lesson.

Brief Goals: Count the number of words in your goals. When a goal takes more than twenty or thirty words, it's probably too complicated to make sense to someone else besides yourself.

A Few Goals: Count the number of goals you have written for a course. If you have more than five to ten goals for a one semester course, you have possibly mingled a number of secondary goals with the more important outcomes which can often be summed up in a few words and in a few straightforward sentences. Try to pull these subgoals together into larger goals.

Understandable Goals: Count how many words of more than ten to fifteen letters you have in your statements. If you have words that are polysyllabic, don't you think it would make more sense to a student or to a non-specialist to use shorter synonyms that more people could understand? For example, more readers would have understood this last sentence if it had used "long" instead of "polysyllabic" and if it had used "layman" instead of "non-specialist." In other words, don't say "Eschew verbal prolixity" when you can just as well say, "Avoid long words." Short staccato words sink in more deeply.

Brief and Understandable Goals: Can you draw a picture or a rough sketch of your goal without being a professional artist or a creative genius? If your goal isn't observable and measurable and sketchable to the average person, then perhaps it's much too ambiguous and too vague to tell the man-on-the-street exactly what you want.

Goals of Your Course: Does one or more of these goals reflect your individual approach to teaching and learning? To make these goals your goals, you should try to write them in such a way that someone having nothing but your goals to go on could pick you out from other teachers trying to attain similar objectives. These goals should reflect your own teaching style.

Step Three: Rewrite or redesign your goals in light of the above criteria. Do this only for those criteria with which you agree. If you agree with a criterion, it means that you feel it will improve the clarity or the understandability of your goal statement. If you don't agree with a particular criterion, rewrite your statement of objectives in the way you think most understandable to your incoming students.

Table 4

Individualizing Criteria That Can Be Used to Make Course Goals More Understandable

COURSE GOAL ------	These goals are much broader in scope than the objectives achievable in two or three days of instruction.
BRIEF GOALS ------	Each goal should be expressed in twenty words or less so that your students will not be hung-up on words.
A FEW GOALS ------	Five goals should be enough to sum up the objectives of a semester course.
UNDERSTANDABLE GOALS ----------	These goals should be expressed in simple and precise words that avoid misunderstanding.
BRIEF AND UNDERSTANDABLE GOALS ----------	Each goal should be vivid enough and observable enough that you could easily draw a sketch of it.
GOALS OF YOUR COURSE----------	At least some of these goals should reflect your own individual approach and style of teaching.

You know that each of your students has unique needs. One of these needs is self-development inside and outside your classroom. If learning is to become self-initiated, the learner must be able to know where you are going and how this ties in with his own personal and professional goals. In this regard, clearer teacher goals can push the learner to develop clearer individual goals.

PLACING THE FIRST THREE INDIVIDUALIZING STEPS IN PERSPECTIVE

After you have written your objectives with the above individualizing criteria in mind, you will be able to do things differently. When you start thinking about your lessons, you will be visualizing things you can do in the classroom, things your students can do at home and on the job, and things you never thought of before. When you start teaching, your speaking vocabulary will be different; it will use more active verbs and less abstractions; it will have to improvise a lot more because when students start understanding previously hazily understood terminology, they will bombard you with questions; it will be more impressive because you will clearly have only one idea or activity in mind at a time; your students will start to notice that visible and observable activities are the important items on the agenda and that other considerations such as terminology and demonstrations are important only insofar as they improve his or her ability to do things that he or she couldn't do at the beginning of the course. Your attitude will change once you begin to experience the feeling of power and experience that come from being able to express yourself clearly in such a way as to get people to do the things you are helping them learn; you will start to notice that people--your students, their parents, your administrators, and the general public--begin to understand better what you are trying to do; it won't take you long to notice how this better understanding expresses itself in greater cooperation and teamwork.

People will cooperate with you when they agree with your goals. Learners will be more inclined to identify with your objectives when your goals are relevant and understandable. When this occurs, you are all on the same team.

Table 5

What You Can Do When You Start Developing Goals to Individualized Specifications

KNOWLEDGE -----	Visualize activities your students can do as practical applications of learning objectives.
ACTIONS -------	Tailor your classroom presentations to the interests, skills, and previous accomplishments of the particular group of learners with which you happen to be working.
ATTITUDES -----	Experience the feelings of power and self-actualization that accompany the completion of a pre-determined goal or objective. This prepares you for the attainment of other successes through improvisation.

After you are able to do the above activities to your satisfaction, you will not automatically find that you are able to write behavioral objectives or performance objectives according to acceptable editorial standards of conditions, performance, and criteria. However, it does seem obvious that you will be in a better position to improve your classroom instruction. This, by the way, is the main reason which would motivate the average teacher to take the extra time and effort necessary to write performance objectives. Once you have begun to specify your goals, you begin to find out that there are many ways to get there. It's the same thing with your students; once they know what you expect of them, they will be better able to give observable proof of their attainment of these mutually desired objectives. Teamwork is important in education whether it is with your colleagues or with your students; teamwork is ordinally impossible unless the members of a team know and share various goals and objectives in common.

NEXT STEPS NECESSARY TO INDIVIDUALIZE ONE OF YOUR CLASSROOM LESSONS BY USING PERFORMANCE OBJECTIVES

Now that you have established the general directions you want to take during the coming semester, it is necessary to start thinking in terms of day by day instruction. Your overall course goals have given you a sense of where you will be in a few months; now it is up to you to trace out the steps you will take to get there.

Step Four: Try to approach your overall course goals from the point of view of the student to determine whether they are relevant, attainable, interesting, challenging, job-worthy, expandable, and visible.

Note carefully the words, "try to approach." The criteria summed up in the above string of adjectives are expressive of goals that should be implicit in your written objectives or at least in your mentally thought-out objectives. The important thing here is not to re-write your overall course goals; the important thing is to be sure that your goals, no matter how you wrote them, are capable of living up to these criteria by insights, classroom performances, and attitudes you build up inside yourself. If you have carefully chosen your overall course goals, you will be surprised by how much you have unwittingly included in a few brief sentences which sum up your past teaching experience and your plans for the future.

In a similar vein, the words, "from the point of view of the student," give you a sense of direction and purpose. In the classroom, your job is not to impress the students with how much you know or with how well your goals are written. Make them say, "I learned," rather than, "I was taught."

Chances are that your short statements of course objectives will be easy for the students to memorize even though these same goals will take all semester to accomplish in terms of newly acquired viewpoints, tasks, and values. It is likely that your new students will not understand these pithy sentences as well as you do at the beginning of the course. It is your job to make sure that at the end of the course, it is a different story.

Think back on your own school days. Most likely, there are many teachers whose names and goals have been completely forgotten; their courses were something you went through and endured. There are other teachers whom you will never forget; yet their memory is kept alive by at most one or two very specific and almost forgettable souvenirs. Very likely, if they were good teachers, you now recall the things they intended to teach you, whether these be ideas, skills, attitudes, or performances; if they were less effective,what you recall from their instruction might have no relation whatsoever with worthwhile educational goals. Each teaching-learning encounter is unique in itself and in its impact.

Relevant: When your students perceive your course as relevant, they will feel that it is unforgettable because it is seen as a good use of their present time and a good preparation for their individual goals. A possible test of course relevance suggests itself: Ask your students their reasons (or goals) for taking this course; do this before you present your own. You might be surprised in one of two ways: their goals might be very similar to those you had drawn up; their goals might be so much better or better expressed than your own that you will find yourself adopting these student-formulated objectives. By the way, this is not a bad thing to do. Once you start doing this, you will find your students and yourself learning not only more subject matter but hundreds of ways to get students to learn what you want them to acquire; you and your students will begin to feel the thrill that comes from using other tools than your superior knowledge as the main ingredient of your teaching strategy in the classroom.

Attainable: When your students think of your course as attainable, they are expressing an awareness and an attitude. They are aware of what you are trying to get them to accomplish. They have the attitude or impression that is indeed possible for them to acquire these new understandings, skills, and values. A student who feels the objectives of the course are attainable is encouraged to work as hard as he can. This is a step in the right direction since a discouraged student can interrupt the normal progress of a class in a number of ways that can frustrate even your most relevant objectives.

Interesting: Students like to dream. When a student daydreams instead of learning, he is telling you,his or her teacher,that his private vagaries are more interesting than what you are trying to get him or her to do. One of the best remedies you can employ against daydreaming is get your students dreaming about what they will be able to do once they attain the course objectives. This is something a student won't always tell you. For example, if you ask a student to spell out a course goal, you will get general replies such as "I want to get a job I will like." Once a student starts to reveal to you dreams and future aspirations, you will get such answers as, "I want a job that offers me the chance to get ahead in life in a lot of different ways." Dreaming has many things in common with planning.

Challenging: If you were to walk down to the average employment office, you would discover that many available jobs go without applicants because these jobs are perceived as requiring little skill. Your students don't want to be trained for such work because there is little or no possibility of advancement. Follow-up studies tell you that the average graduate of your classes will make four or five major career changes in a lifetime. If you teach as if he will have his or her entry level job until retirement, you may be building course objectives on a weak foundation. A little error in the beginning of a school year can cause a lot of trouble later on.

Job-Worthy: For a fresh perspective, you might ask yourself the following question: "How much would I pay this student per hour upon mastery of course objectives?" If your answer is low, then do something about it. The point is not to stress monetary considerations above all other; the idea is to realize the money is one of many ways to keep score. It is a system of comparison that is easily understood by students and laymen alike.

Expandable: Undoubtedly you are aware that there is not a single boy, girl, man, or woman in your classes who wants to get tied down or frozen into a dead-end career. Try to visualize what will happen to a graduate of your course when he or she finally obtains an entry level position in which this particular course objective is relevant. If this particular objective is so limited and precise that it resembles a dead-end sign rather than something upon which to build a career, then make the necessary changes and enrichment.

Visible: Look through your files. Do you have a picture of a former student carrying out this particular objective? If you don't, do you know where you can find one? If your goal is so abstract that it can't be photographed, then try again until you come up with one that is camera-ready. The reason for this is very simple; your students won't be able to visualize an objective that requires much study to achieve unless you go out of your way to render this an objective appealing, interesting, and tangible to your students.

Human frailty can manifest itself in both learner and teacher mediocrity. Lack of interest can be seen in uninspired teachers and in uninterested learners. Course goals that incorporate the above criteria can do more to motivate students to learn than objectives that try to talk down to learners of any age or ability.

Table 6

An Overall Evaluation Checklist for Course Objectives

RELEVANT ----------	Students can think up on their own reasons behind this course goal.
ATTAINABLE --------	The more the students understand the goal, the more they are encouraged to work towards its accomplishment.
INTERESTING -------	The course goals are worthy of a student's daydreams.
CHALLENGING -------	The student must do more than dream to attain this goal.
JOB-WORTHY --------	The student applying this goal on the job will find that it makes him or her worthy of an adequate recompense.
EXPANDABLE --------	The student sees this particular goal as a career building block and not as a dead-end.
VISIBLE -----------	The student can picture the goal in his mind even before he has completely mastered it.

Step Five: Develop a few of your overall course goals into a format that will give you precise directions for one or more classroom presentations.

While doing this, it might be a good idea for you to forget the abstract ideas you have heard and read about behavioral and performance objectives. At least, don't use these terms in front of your students if you don't want to confuse them.

Try to remember the following:

1. Goals as written by teachers are often fuzzy concepts. They are not necessarily fuzzy to the experienced teacher. They are often fuzzy and hard for beginning students to imagine.
2. When you edit your course goals to make them more observable to students, you are doing your best to render your goals more understandable and hence more attainable. This doesn't require a large amount of writing.

Try to do the following:

1. Break down your course into its larger sections.
2. Break down each of these larger sections into its subdivisions.
3. Develop daily classroom objectives as well as you can.
4. Develop at least one evaluation instrument to match each objective.
5. Look around at what teachers of courses similar to your own are doing to teach, to evaluate, and to motivate.

Even if you don't change as much as a comma of what you have previously written, you will be in the position to ascertain three important truths of teaching:

- Your individual way of teaching is not the only possible way to attain your objectives.
- Evaluation is not something someone does to someone else. It is something you must do to and for yourself.
- This means that, for your students, evaluation must be something they can do to and for themselves if it is to be meaningful and relevant.

WHAT ONE AUTO MECHANICS TEACHER DID AFTER READING STEPS ONE TO FIVE

Here is a story that may interest you. It will show what a teacher of auto mechanics did to make his course goals more observable and measurable.

He wrote for step one: "I want to teach my students how to repair fuel and ignition systems. I want them to be able to get a job immediately after graduation. I want them to be well disciplined enough so that they will be able to get along with others on the job."

For step two, he merely wrote, "I stress basic vocabulary and fundamentals more than other teachers."

For step three, he wrote, "I don't think it makes any difference if I write 'I teach' or if I write 'my students learn.' The important thing is to concentrate on diagnosis and repair."

For step four, he wrote, "A good mechanic doesn't have to worry about his skill landing him in a dead-end job."

For step five, his list of objectives was as follows:

1. To identify and name fuel lines and fittings.
2. To service fuel filters and lines.
3. To explain the operation of various types of fuel pumps.
4. To diagnose fuel pump problems.
5. To remove and replace fuel pumps properly.
6. To explain the operation of fuel gauges.
7. To diagnose and correct fuel gauges.
8. To explain the repair of fuel tanks.
9. To be convinced of the danger of repairing fuel tanks by oneself.
10. To explain components and service of exhaust system.
11. To realize that carbon monoxide from automobile exhaust is a deadly gas.

The teacher felt that this listing stresses the order of his classroom presentation. With this guide in front of him, he was able to supply the subject matter and classroom activities necessary for his students.

Further discussion with the instructor revealed that the conditions under which many of these objectives were to be met included such things as "at the end of this unit, during training, and on the job. The standards for many of these performance objectives were "manufacturer's specifications."

Analysis of this list of objectives revealed that objectives 1, 3, 4, 6, 8, 10, and the first half of 7 could be called cognitive goals since they stressed knowledges. Objectives 2, 5 and the last half of 7 could be called psychomotor goals since they stressed performances and activities. Objectives 9 and 11 could be called affective goals since they stressed attitudes necessary for job success.

It was suggested that the teacher place his goals in schematic format in such a way as to place knowledge, performances, and attitudes in their proper relationship to one another. Table 7 shows the results of this first schematization attempt. Table 7 puts the results of the above discussion into a table that shows the relationships between the course goals.

TABLE 7

FIRST SCHEMATIZATION: UNIT GOALS FOR CARBURETION LESSONS

	KNOWLEDGES (cognitive goals)	PERFORMANCES (psychomotor goals)	ATTITUDES (affective goals)
Goal 1	1-K Identify and name fuel lines and fittings	1-P Service fuel filters and lines	1-A
Goal 2	2-K Explain operation of various types of fuel pumps Diagnose fuel pump problems	2-P Remove and replace fuel pumps properly	2-A
Goal 3	3-K Explain operation of fuel gauges Diagnose fuel gauges	3-P	3-A
Goal 4	4-K Explain repair of fuel tanks	4-P	4-A Be aware of the danger of doing it alone without expert supervision
Goal 5	5-K Explain components and service of exhaust system	5-P	5-A Realize that carbon monoxide from automobile exhaust is a deadly gas

Advantages of Table 7 Schematization

The eleven objectives presented in table 7 do not differ very much from the eleven objectives previously presented. However, several advantages do emerge from this type of presentation. In the following pages, try to imagine that these are your course objectives.

1. Your beginning student is able to place all eleven of the course goals in perspective. This he can do at a glance by simply looking over the objectives to be attained in the course.

2. Your beginning student is made aware of the structure of this particular segment of classwork. Rather than think of eleven unrelated objectives, he is presented with a simpler and more basic configuration of five basic areas. No doubt, this concrete design was in your head as an experienced teacher. If you had presented your class goals as eleven apparently unrelated statements, chances are that your students might not begin to realize the logical simplicity which was there.

3. Your beginning student is able to analyze the overall goals into component parts. The coding also becomes obvious. The suffix K stands for knowledge; P for performance; and A for attitudes. For example, he sees that goal 1 is really a combination of cognitive goal 1-K, the related psychomotor goal 1-P, and affective goal 1-A. This is evident even though the attitude objective (goal 1-A) has not been explicitly written out. Your more alert students will begin to suspect that there is a basic set of mind (goal 1-A) essential to apply the knowledge (goal 1-K) and performance (goal 1-P) under study to actual on-the-job situations.

4. Your beginning student is able to ask intelligent questions. For example, he might inquire, "Why don't we say that we intend to repair fuel tanks?" To this question, you will reply, "Because it is too dangerous except for a specialist." In turn, this will force you to spell out the fact that his on-the-job performance will be "to hire out fuel tank repair work to a specialist." This application was quite obvious to you the teacher even though you never came out and said it. The obvious advantage here is that when students begin to understand what the teacher wants, they are able to do more in the learning process than listen; they will ask the kind of questions that will bring out all your expertise and experience.

5. Learning can become a two-way street. Your beginning student is able to absorb in the classroom things it took you his instructor years of study and work to learn. This learning goes beyond mere memorization of texts and lectures since it is centered on objectives which build up a well balanced diet of knowledge, performances, and attitudes. You as teacher will learn more about how to get the point across to the type of student you will have in the classroom.

6. Learning can become a challenging activity. Rather than give a strictly academic lecture on the operation and diagnosis of fuel pumps, you the instructor will build up a certain sense of the dramatic as you demonstrate one situation after another in which the fuel pump seems to be defective when in reality something else needs attention. As you can realize, it is more important for your students to have this attitude and the corresponding feelings of suspense inside them than merely to have memorized that "apparently defective fuel pumps are often in good condition."

Let's look now at Table 8, a more complete schematization.

TABLE 8

MORE COMPLETE SCHEMATIZATION OF COURSE GOALS

	KNOWLEDGE (cognitive goals)	PERFORMANCES (psychomotor goals)	ATTITUDES (affective goals)
Goal 1	1-K Identify and name fuel lines and fittings	1-P Service fuel filters and lines	1-A Willing to take enough care to do a precision job
Goal 2	2-K Explain the operation of various types of fuel pumps	2-P Remove and replace fuel pumps properly	2-A Be sure pump is actually at fault since many other problems simulate a defective fuel pump
Goal 3	3-K Explain operation of fuel gauges Diagnose fuel gauges	3-P Remove, correct, and replace fuel tanks, air cleaners, fuel gauges	3-A Realize the dangers of faulty diagnosis
Goal 4	4-K Explain repair of fuel tanks	4-P Hire out fuel tank repair work to a specialist	4-A Be aware of the danger of repairing fuel tanks yourself
Goal 5	5-K Explain components and service of exhaust system	5-P Service exhuast system Take steps necessary to protect car owner and passenger	5-A Realize that carbon monoxide from automobile exhaust is a deadly gas

Table 8 gives a revised version of Table 7. It incorporates the kind of thinking discussed above. The main idea is not that these goals are in unalterable form or in a ritualized format. The main idea is that these goals in the schematization of Table 8 can effectively help develop the understanding your students need of course objectives. Presentations found in Table 7 and in the eleven goals presented previously are less wordy for you the teacher to write. The trouble is that these pithy summaries sometimes confuse the boy or girl who doesn't know how to read between the lines in a particular discipline.

Table 8, like Table 7 which preceded it, is designed for the student. It is an attempt to spell out, in an orderly and simplified presentation, exactly what is expected of the student in your course. Rather than presume your student will see the obvious connection between knowledges, performances,and attitudes necessary for success in working with others, each of these parameters are made explicit.

It is quite likely that a teacher presented with this information from another teacher will react with interest and criticism. The interest will be there because every professional teacher likes to know what others are doing in the same course. The criticism is there because every teacher has certain goals, methods, and convictions which are seldom found duplicated in someone else. You and every other teacher naturally prefers to individualize. If you, as a reader and as a teacher, find that you have different ideas for the particular components of a lesson, feel free to cross out what you don't like and to write in what you think is more appropriate to your teaching style and to the learning style of your students.

THE SYSTEMS APPROACH: Objectives, Evaluation, and Resources

Evaluation Implications of Table 8

Most teachers have a simple method of test construction. No doubt you have employed it yourself. Basically, you as a teacher will list out in detail your course objectives and then develop a testing instrument that samples your most important course goals. Sometimes, this can be done very systematically. For example, a teacher may write each detail of each course on an index card; on the reverse side, a sample evaluation item will be spelled out. Even if each course detail does not receive a specific test question or performance examination item, the vast majority of the course is ready for the sampling necessary for evaluation.

A teacher who employs the format found in Table 8 will be likely to sample all of his intended course goals, including attitudes and performances that are implied in competence. Rather than merely stay with conventional written examination methods which function moderately well for evaluating knowledge acquisition, you will be able to sample essential performances necessary for on-the-job applications. In addition, it will force you to evaluate the practical importance of attitudes; this is a difficult area. The mere fact that you come to grips with it will enable you to make your evaluation on data more objective than typical "grit feelings" you may have about a particular trainee or student. In addition, once you begin to think about attitude goals, you will find that you are very ready to find out about and try out ideas suggested by your colleagues.

Evaluation becomes the simplier question, "How do you know when and how well you have succeeded?"

Resource Implications of Table 8

Instructional resources include a number of things. One of the most obvious is what to say to your students; if you say too much, they may turn you off after a time; if you say too little, they may not get the secrets and depths summed up by you in a few words. Another resource is what you write or draw on the blackboard; sometimes, a diagram with a few key words goes a long way in getting a difficult point across; at other times, it is the step-by-step development of the drawing that is more valuable to the student than simply staring at a more complete and more complicated illustration in a text or on a duplicated page. Another resource is the textbook; reading is still a basic knowledge source; the idea is to pinpoint specific pages of books that are understandable to students and that stress exactly the point under consideration. In a similar vein, slides and illustrations can serve your purposes; many teachers develop over a long period of time slides, transparencies, and illustrations that help attain the exact objective sought after; wouldn't it be nice if you had access to all this material developed and tested by experienced teachers teaching the same goals as yourself? Movies are another good source especially when the concept and awareness of motion are necessary components of a particular knowledge or performance; the trouble is that a film carefully and painstakingly obtained by you may be found to be geared to objectives that are not part of your plan of attack; it would be nice to have a list of films specified by more than a general subject matter area. Videotapes can be used by you to point out activities that must be learned step-by-step and then performed in a continuous sequence by the learner or trainee; with videotape capacity, you will be able to benefit from instant replay and slow-motion.

Once you have spelled out your objectives, you have begun to think in terms of a system. Without a system, many teachers merely teach till exam time; they shift gears and start thinking about test questions; as the next step, they make a mental note of what to change next time around. With a system, you will do things differently. You will think of your course objectives, your criterion examinations, and your instructional resources at the same time.

This doesn't mean that all problems will be solved by you the first day of class, but you will be working on them. As in the development of table 7, you will be able to pinpoint gaps in either objectives, evaluation, or resources. Once missing components are clearly identified, you will be in a much better position to do something about them. This is what a system is all about; it means a coordinated approach to classroom instruction; this means that your course is not taught or developed in a vacuum. It is part of a systematic approach which unites personnel, technology, goals, communication, evaluation, instructional resources, and processes into a concerted effort.

In a systems approach, personnel includes students, teachers, supervisors, and administrators not as opponents or as members of a hierarchy but as members of the same team. Processes include the many ways these people work together to achieve mutual goals. Resources, even when called instructional technology, are simply the visible ways knowledge can be applied to attain clearly defined results; resources are not limited to machinery. Goals answer the question, "What do you want to achieve in common with your colleagues?" Evaluation answers the question, "How will you know when you have attained these goals?" Communication is simply making sure that all concerned are aware of mutual goals and their current status of attainment.

In this context, structure is not seen as an excuse for stagnation or complacency; it is one of many possible ways to achieve effective work habits. Responsibilities can lead to praise and suggestions as well as to criticism in the constructive sense of the term; realignment is a very adaptable method of defusing human defensive tendencies. Authority can then stress in addition to its built-in dimensions of power and coercion the more appealing parameters of reasonableness and responsiveness which provide the security necessary to keep any system from falling apart.

In such a systems approach, educators will be bound together by their common goals and experiences which boil down to the type of dedication to education that expresses itself in a willingness to learn and to make the effort necessary to learn.

The inauguration of a systems approach is in some ways easy, and in other ways difficult. Not everyone does come up with a fully effective system; most people do operate with some kind of systematic approach even in the midst of chaos. On the other hand, an integrated system is like the proverbial side of a barn. It is easy to hit, but it is often quite difficult to hit the particular part at which a person may be aiming. The above pages have tried to hit the particular part at which a person may be aiming. The above pages have tried to point out a few possible beginnings for you, the classroom teacher.

The systems approach in education boils down to "looking at the full picture in the context of a given learning environment." There are other ways to develop a functioning system; this will be seen in the next example which gives additional stress to learning and evaluation opportunities.

WHAT AN ADVERTISING TEACHER DID AFTER READING THE PREVIOUS EXAMPLE

Here is another example that may clarify this individualizing process for you. It shows what one advertising teacher did to make his course goals more specific, measurable, and more teachable. He did this his own way after reading the previous example of the auto-mechanics teacher.

He wrote for step one: "Advertising Behavorial Objectives: At the end of this lesson I want my students to understand the part that advertising plays in our economy. I want them to be able to do the following in their own words:

a. Identify some contributions of advertising to the economy.

b. Give specific examples of the different types of advertisers.

c. List at least five reasons why people advertise.

d. Specify the various audiences advertisers want to influence."

For step number two, he wrote, "I want my students to understand the definitions and purposes of advertising. This means that most of them will master the following subject matter:

A. Definition

1. Advertising means presenting information and facts about a product or service. This presentation is not called advertising when it is done face-to-face.
2. If we didn't have advertising, we wouldn't have much chance for selling. Teaching Suggestion: I have students tell me products they learned of only through advertising.
3. The communications arm of marketing is advertising.
4. Another definition of advertising is the size and scope of the advertising business. Teaching Suggestions: I elicit definitions from students which naturally lead to the above statements.

Teaching Resources:
1) Neil Borden, The Marketing Mix, The Harvard Review.
2) The Advertising Age.
3) The A.A.A.A.
4) The Advertising Research Foundation.

Testing Suggestion: Students should be able to give examples of advertising found in TV, newspapers, and magazines.

B. Purposes of Advertising

1. Information is provided to the consumer.
2. Sales volume and profits increase.
3. Resellers start to notice how some brands sell better.
4. Marketing goals can be implemented and based on predictable data.
5. Consumption of a particular product or service increases.
6. New products are introduced.
7. Communication between manufacturer and consumer is facilitated.
   Testing Suggestion: The student should be able to recall at least five general goals of advertising.
   Teaching Suggestion: The check-off sheet I have developed for probe-interviews with retailers is available in mimeograph."

NOTE: TO WRITE OR NOT TO WRITE

As you may have no doubt noticed, the emphasis in the above two sections is on subject matter and content. There is nothing wrong with this. However, it is the point of view of this article that teachers and students alike benefit when they shift gears from subject matter to goals and objectives. A shift of gears is a shift of emphasis.

It must be emphasized again that the idea is to shift gears from content to objectives; the idea is not to shift gears from "writing less" to "writing more." You may find that the mental activity of thinking and organizing their classroom performance according to the format herein advocated is enough to turn your students into aggressive learners who know what they want to learn, who know how to learn, and who know how to evaluate what they have learned. On the other hand, you may find that writing out your goals helps you and your students; this is not true for everyone. There are many people for whom the process of rethinking their objectives is done more effectively when paperwork is kept to a minimum.

In establishing objectives, decision-making has a higher priority than writing or typing statements of objectives.

SHIFTING GEARS FROM SUBJECT MATTER AND CONTENT TO GOALS AND MEASURABLE OBJECTIVES

Analysis of these goals reveals that this teacher is quite aware of two classroom necessities: teaching suggestions and testing suggestions. From the format of this presentation, it would be natural to assume that, for every segment of subject matter and content, he has developed over his teaching career a number of evaluation tools and a number of instructional resources. He has listed only a few of them. The unlisted evaluation and instructional resources are not readily available to you, the teacher, in the format presented above.

The following section tries to overcome this communication gap. It will try to take this material and change it into a format that will help you benefit from the long experience of this particular teacher.

The first task for you is to divide your course goals into three components, each of which is identified by a code number:

goal component	code number (examples)
KNOWLEDGE (cognitive goals)	1-K
PERFORMANCES (psychomotor goals)	1-P
ATTITUDES (affective goals)	1-A

These are the three components of goal 1.

Each of these components is further broken down into evaluation tools and instructional resources:

KNOWLEDGE GOAL	(1-K)	PERFORMANCE GOAL	(1-P)
KNOWLEDGE EVALUATION	(1-K-E)	PERFORMANCE EVALUATION	(1-P-E)
KNOWLEDGE RESOURCES	(1-K-R)	PERFORMANCE RESOURCE	(1-P-R)

ATTITUDE GOAL	(1-A)
ATTITUDE EVALUATION	(1-A-E)
ATTITITUDE RESOURCE	(1-A-R)

For computer processing this coding provides major fields (e.g. 001, 002), major subdivisions (e.g. K, P, or A), and minor subdivisions (G, E, or R).

TABLE 9

SCHEMATIZATION FORMAT: SHIFTING GEARS FROM SUBJECT MATTER AND CONTENT TO MEASURABLE GOALS AND TEACHABLE OBJECTIVES

	KNOWLEDGE (cognitive goals)	PERFORMANCES (psychomotor goals)	ATTITUDES (affective goals)
SPECIFIC GOALS Objective 1 or Goal 1	1-K Knowledge Goal	1-P Performance Goal	1-A Attitude Goal
MEASURABLE GOALS Evaluation of Goal 1	1-K-E Knowledge Evaluation	1-P-E Performance Evaluation	1-A-E Attitude Evaluation
TEACHABLE GOALS Resources for Goal 1	1-K-R Knowledge Resource	1-P-R Performance Resource	1-A-R Attitude Resource

Table 9 presents the information matrix discussed above. It shows how each segment of subject matter or content can be translated into measurable and teachable objectives.

The task of filling in the blanks can be reduced to answering a series of questions for each square or section of table 9. These questions are summarized in table 10. The resulting product is summarized in table 11.

Section 1-K: If you are the teacher, you will ask yourself: "What do I want my students to know after the course?" The job is now reduced to specifying exactly what you mean by the vague term "know."

After a while, you might decide that you want your students to be able to "recall at least five general purposes of advertising." Similarly, you feel it important that they be able to pick up magazines, newspapers, and other media and "give examples of purposes of advertising."

Section 1-K-E: If you are the teacher, you will ask yourself: "How do I distinguish between students who have succeeded and those who still have not yet attained objective 1-K?"

Without too much difficulty, you might say, "It all depends. Sometimes, I use oral exams. Other times, I use written tests." If you happen to hear that one of your colleagues has developed some especially effective questions to measure the same objective 1-K, you will file all such material under section 1-K-E.

Section 1-K-R: If you are the teacher, you will ask yourself: "What media, techniques, and resources have I found helpful in getting this point across to my students and in helping them achieve objective 1-K?"

In the course of teaching, you have undoubtedly amassed a number of newspaper clippings, magazine advertisements, articles in trade publications, examples from TV, recordings of radio commercials, and perhaps even videotapes

of illustrative commercials. They all go here under 1-K-R.

Section 1-P: The question you ask yourself is, "What can my students do to apply the knowledge gained from 1-K?" This should be an activity that goes beyond the obvious activities of listening in class, taking class notes, studying texts, and doing written homework.

You might think it educationally feasible and profitable for several students to "visit a retailer-owner and to probe why he advertises." Other students in the classroom might have the choice of "watching TV from 7:00 P.M. to 8:00 P.M. and of logging the advertisements."

Section 1-P-E: The question you can ask yourself here is, "How will I distinguish between the various degrees of success in attaining objective 1-P?" A written test may be irrelevant to goal 1-P since you are evaluating performance rather than knowledge.

It might occur to you that a class report subject to peer evaluation will help you distinguish between the good talkers and those students who really learned how to do something. Any other evaluation tools you come across would be similarly listed here under 1-P-E.

Section 1-P-R: The question you can ask yourself here is, "What can I do before my students go out on the street to help them attain objective 1-P?" Talk and exhortation can only do so much.

It might be that last year you tried the same probe-interview and TV-watching techniques. However, they didn't work since most students reported to the class that they didn't know what to ask the retailer-owner once they got into the store while others had no idea what to write as they watched TV commercials. For this purpose, you might include under 1-P-R, a checklist of questions that can be used by your students in preparing their own probe-interviews. You could also develop a recording form to analyze TV advertisements.

Section 1-A: The question you ask yourself here is, "What attitudes must my students develop in order to maximize their likelihood of applying objectives 1-K and 1-P?" It is not implied that there are certain things a person can be made to like or to feel. It is simply understood that the person with the"right attitudes" can often out-perform the person who is shrugged off with, "Oh, he's smart enough and competent enough, but I would never hire him because I don't like his attitude."

You might decide that you want your students to realize that advertising is more than "selling and telling." In your mind, you want them to see both sides of profit, making money for oneself and giving necessary services to the consumer.

Section 1-A-E: The question you ask yourself here is, "What can I do to make this admittedly subjective dimension of attitudes more objective and less subject to whim and prejudices?" Sometimes, it is more effective to sound out peer group evaluation than to impose your own criteria.

You might decide that a good way to get to student attitudes and feelings is to have them "recount an advertisement that turned a number of them on." Without getting into depth psychology, it might be a worthwhile idea for the teacher to let students develop on their own a number of "creative student-chosen evaluation activities" which could serve as yardsticks for measuring individual and group success.

As you can see, this format is open-ended. It is presumed and expected that you will come up with a number of different approaches. This list specifies the repertoire from which you may choose. It is not intended to tie you down to an endless repetition of the same examination questions over and over again.

Section 1-A-R: The question you ask yourself is, "What instructional resources are particularly appropriate to helping students develop necessary attitudes?" This question is a combination of "What has worked in the past?" and "What will probably work with the students currently enrolled?"

You might decide that "role playing" will give students insight into what is involved in choosing a particular type of advertisement for a particular purpose. You might find that "advertisement watching" is perhaps one of the best stimulants and catalysts of student attitudes. You might find that "brainstorming" will teach you a lot about how your students learn attitudes and about how they evaluate the attitudes of their peers. You must choose the most appropriate as you see it.

Here is table 10, which summarizes the questions necessary to develop a coordinated combination of objectives, evaluation tools, and instructional resources for objective 1.

NOTE: Coding

Rather than get bogged down in a complicated coding system, it is easier to remember that code "E" stands for evaluation and that Code "R" stands for resource. In your own mind, you might find it easier to write "1-K (EVAL)" in place of "1-K-E" or to write "K-P (RES)" in place of "1-P-R." Whatever code you use, it should avoid confusion rather than cause it.

Since you teach differently and approach things differently than other teachers, don't expect all your colleagues to imitate your successful goals, tests, and resources in more than a general way.

TABLE 10

QUESTIONS THAT CAN BE USED TO DEVELOP CORRELATED OBJECTIVES, EVALUATION TOOLS, AND INSTRUCTIONAL RESOURCES

	KNOWLEDGE (cognitive goals)	PERFORMANCES (psychomotor goals)	ATTITUDES (affective goals)
SPECIFIC GOALS: Objective 1 or Goal 1	1-K What do I want my students to know after the course?	1-P What can my students do now to apply this knowledge?	1-A What attitude helps students most in learning and in applying all this?
MEASURABLE GOALS: Evaluations of Goal 1	1-K-E How can I tell the difference between successful and unsuccessful students?	1-P-E How can students distinguish between the various degrees of success?	1-A-E How can I make subjective attitude evaluation less subject to individual whim and prejudice?
TEACHABLE GOALS: Resources for Goal 1	1-K-R What has worked in getting these goals across to students?	1-P-R What can I do to get my students to perform on their own?	1-A-R What can my students and I do together to develop the give-and-take necessary to foster good attitudes?

Note: Code E Denotes Evaluation

Note: Code R Denotes Resource

CONCLUSION

Here is table 11 which shows a more complete schematization of the systems approach used to attain advertising goal one.

Basically, this table incorporates the work of table 8 in developing coordinated knowledge (1-K), performances (1-P), and attitude (1-A) objectives. It bears out the belief that every new insight or knowledge can express itself in performances or visible activities which are often facilitated by the acquisition of less visible attitudes or feeling which underlie everything your students will do.

Upon closer examination, it goes a step farther and incorporates the ideas of specific goals, measurable goals, and teachable goals. Each of these concepts is quite simple in conception. Specific goals refer to things that can be done on a day-to-day basis in the classroom. Measurable goals refer to evaluation tools that can be used as seen fit by you the classroom teacher. Teachable goals refer to instructional media that can be used to fill out daily lessons and to serve as a broad basis of choice for a teacher-chosen instructional strategy.

The idea is not that each teacher must use each specific detail presented in table 11. The idea is that table 11 will give a teacher a number of choices from which he or she can choose an instructional plan appropriate to himself, fellow teachers, students, and their mutual objectives. Relevance can motivate the normal student to learn.

The function of any system in education is to develop the latent power of a teacher to deal with real learners. When technology is brought on the scene, the teacher is not to become a button-pusher; he or she is expected to be a manager of learning, a person who can function on the human level assisted by the latest pertinent resources.

TABLE 11

MORE COMPLETE SCHEMATIZATION OF THE SYSTEM USED TO ATTAIN ADVERTISING GOAL ONE

	KNOWLEDGE (cognitive goals)	PERFORMANCES (psychomotor goals)	ATTITUDES (affective goals)
SPECIFIC GOALS: Objective 1 or Goal 1	1-K Recall at least five general purposes of advertising Give examples of purposes of advertising	1-P Visit a retailer-owner and probe why he advertises Watch TV 7:00 P.M. to 8:00 P.M. and log the advertisements	1-A Aware that advertising is more than selling and telling
MEASURABLE GOALS: Evaluations of Goal 1	1-K-E Oral Test Written Test	1-P-E Peer Evaluation of Class Reports	1-A-E Recount an advertisement that turns the student on Creative student-chosen evaluation activities
TEACHABLE GOALS: Resources for Goal 1	1-K-R Newspapers Magazines Trade Publications TV Media Radio Videotape	1-P-R Check-off sheet for questions to ask a retailer in a probe-interview Recording form to analyze commercials	1-A-R Role playing Advertisement watching Brainstorming

Table 12 is exactly like table 11 except that each section has been left blank so you can fill in your own objectives, evaluation tools, and instructional resources.

If you get stuck, don't be afraid to ask your colleagues for their secrets of success. Once this is done, the next step is to ask your students for their goals and aspirations. If you do this, you will have made aggressive learners out of them. They may learn more, they may learn faster, but most important of all they will be learning more thoroughly and more on their own. After a time, they will begin to rely on their own evaluation of objectives attained rather than merely wait to find out their test scores and final grades.

SUMMARY

Individualizing instruction has been presented herein as the teacher's attempt to provide his or her personal reply to five instructional questions:

- What do you teach?
- Why do you teach it?
- Exactly what are your goals and objectives?
- How do you know when you've succeeded?
- How do you attain this success?

The answers to these questions reshape the performance of teachers and students both inside and outside the traditional school setting.

For further information, write to Bureau of Occupational Education Research / Room 468 EBA / State Education Department / Albany, N. Y. 12224.

TABLE 12

MY SYSTEMS APPROACH TO [ ]

GOAL NUMBER [ ]

	KNOWLEDGE (cognitive goals)	PERFORMANCES (psychomotor goals)	ATTITUDES (affective goals)
SPECIFIC GOALS: Objective 1 or Goal 1	[ ] -K	[ ] -P	[ ] -A
MEASURABLE GOALS: Evaluations of Goal 1	[ ] -K-E	[ ] -P-E	[ ] -A-E
TEACHABLE GOALS: Resources for Goal 1	[ ] -K-R	[ ] -P-R	[ ] -A-R

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TRAINING DOCUMENTS AVAILABLE TO EDUCATORS WHO WISH TO PROVIDE CRITICAL REACTIONS

BULIDING AN INSTRUCTIONAL-LEARNING SYSTEM IN YOUR DISTRICT

123 - How to Write Performance and Behavioral Objectives

PO-1 - How to Clarify Classroom Instructional Goals Through Performance Objectives (THEORY)

PO-2 - How to Individualize Your Classroom Instruction by Using Performance Objectives (TEACHER GUIDE)

PO-3 - How to "GOAL" Transparency Masters (LIMITED)

PO-4 - The Curriculum Guide as Seen Through the Eyes of a Module (LIMITED)

PO-5 - How to Change Emphasis in Learning from Subject Matter Content, and Aptitude to Goals, Objectives, and Gains Scores (LIMITED)

134 - ESCOE - Evaluation Service Center for Occupational Education

137 - Performance Tests: Their Conception, Elaboration, and Formulation (LIMITED)

142 - Teaching and Learning with Modules

175 - Importance of Student Attitudes to Teaching Success (LIMITED)

APPLYING RESEARCH AND DEVELOPMENT TECHNIQUES

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233 - RAWOBS, SYNOBS, and Curriculum Performance Analysis

269 - Checklists Illustrating - How to Take a Goal Apart and How to Put It Back Together in an Instructional System

SHOWING TEACHER HOW TO THINK IN TERMS OF STUDENTS

460 - Curriculum Development: How to Look Around Your School -- and What to Look for - Before It's too Late

461 - The Road to Matrix: An Example of the Construction of a Learning Module

485 - Program Development Through Awareness of Unachieved Student Goals

497 - Planning and In-Service Education (HOW TO DO IT)

COOPERATING AND ADMINISTRATORS

561 - Conference Evaluation (HOW TO DO IT)

INTEGRATING EXISTING MEDIA

633 - Media and the Achievement of Gains Score in Attitude Growth

671 - What Audio-Visual Media Can't Do and Shouldn't Try to Do

USING THE TOOLS OF RESEARCH ALREADY POSSESSED BY MOST TEACHERS

711 - Techniques for the Self-Evaluation of Trades and Technical Courses of Instruction

BUILDING A LIFELONG CAREER: OCCUPATIONAL EDUCATION, VOCATIONAL EDUCATION AND CAREER EDUCATION

822 - Developing Occupational Education Modules That Add Up to Careers

839 - Occupational Education, Vocational Education, Career Education: Their Similarities, Differences, and Futures (A 12-Lesson Self-Paced Refresher Course)

845 - The Switch from Instruction to Learning (LIMITED)

848 - Computer Assembled Career Exploration for Adults Out-of-School and Out-of-Work

864 - Performance-Based Guidance and Counseling Is Not Always the Answer

871 - Community Assessment and Career Education

HIGHER EDUCATION PLANNING SKILLS

936 - Determining the Cost of "Teaching Objectives K, P, or A" (LIMITED)

939 - Determining the Space Necessary to "Teach or Learn Objectives K, P, or A"